

CLAIMS

1. A method for producing printed wiring boards, comprising the steps of:
 - perforating through holes in an adhesive insulator sheet;
 - filling the through holes with a conductive material;
 - forming a conductive wiring pattern on a surface of a releasable supporting sheet; and
 - transferring the conductive wiring pattern from the surface of the releasable supporting sheet onto a surface of the adhesive insulator sheet so as to form the wiring pattern on the surface of the adhesive insulator and perform electric connections between the wiring patterns of plural layers.
2. The method according to claim 1, wherein a fluid conductive paste is used as the conductive material to be filled into the through holes.
3. The method according to claim 1, wherein conductive sheets are used as the releasable supporting sheets and the conductive wiring patterns are formed by electroplating after forming resist films on surfaces of the releasable supporting sheets.
4. The method according to claim 1, wherein the conductive wiring patterns are formed by printing a conductive paste on the surfaces of the releasable supporting sheets.

5. The method according to claim 1, wherein the step of forming conductive wiring patterns includes forming multilayer wiring patterns separated by insulator layers and connected electrically by via holes.

6. The method according to claim 1, wherein a semi-hardened insulator is used as the adhesive insulator sheet.

7. The method according to claim 1, wherein a porous and compressible semi-hardened insulator is used as the adhesive insulator sheet.

8. The method according to claim 1, wherein an aramid-epoxy prepreg that is a non-woven aramid sheet impregnated with an epoxy resin is used as the adhesive insulator sheet.

9. The method according to claim 1, wherein the transferring step includes hardening the adhesive insulator sheet completely with heat and pressure that are applied for the transferring.

10. A method for producing printed wiring boards, comprising the steps of:

perforating through holes in a first adhesive insulator sheet;

filling the through holes with a conductive material;

forming a first conductive wiring pattern on a surface of a first releasable supporting sheet;

transferring the first conductive wiring pattern from the surface of the first releasable supporting sheet onto a surface of the first adhesive insulator sheet so as to make a core wiring board with the first wiring pattern on the surfaces of the first adhesive insulator and electric connections between the wiring patterns by means of the filled through holes;

placing a second adhesive insulator sheet having second through holes filled with a conductive material on the surface of the core wiring board; and

transferring a second conductive wiring pattern from the surface of second releasable supporting sheet onto the surface of the second adhesive insulator sheet so as to form a surface wiring pattern, with electric connections between the surface wiring pattern and the inner wiring pattern by means of the second through holes.

11. The method according to claim 10, wherein a fluid conductive paste is used as the conductive material to be filled into the through holes.

12. The method according to claim 10, wherein conductive sheets are used as the releasable supporting sheets and the conductive wiring patterns are formed by electroplating after forming resist films on surfaces of the releasable supporting sheets.

13. The method according to claim 10, wherein the conductive wiring patterns are formed by printing a conductive paste on the surfaces of the releasable supporting sheets.

14. The method according to claim 10, wherein the step of forming conductive wiring patterns includes forming multilayer wiring patterns separated by insulator layers and connected electrically by via holes.

15. The method according to claim 10, wherein a semi-hardened insulator is used as the adhesive insulator sheet.

16. The method according to claim 10, wherein a porous and compressible semi-hardened insulator is used as the adhesive insulator sheet.

17. The method according to claim 10, wherein an aramid-epoxy prepreg that is a non-woven aramid sheet impregnated with an epoxy resin is used as the adhesive insulator sheet.

18. The method according to claim 10, wherein the transferring step includes hardening the adhesive insulator sheet completely with heat and pressure that are applied for the transferring.

19. A method for producing printed wiring boards, comprising the steps of:

preparing a double-side or multilayer printed wiring board as a core board;

placing an adhesive insulator sheet that have through holes filled with a conductive material on a surface of the core board; and

transferring a conductive wiring pattern from a surface of a releasable supporting sheet onto an outer surface of the adhesive insulator sheet so as to form a surface wiring pattern with electric connections between the surface wiring pattern and a wiring pattern of the core board by means of the filled through holes.

20. The method according to claim 19, wherein a fluid conductive paste is used as the conductive material to be filled into the through holes.

21. The method according to claim 19, wherein conductive sheets are used as the releasable supporting sheets and the conductive wiring patterns are formed by electroplating after forming resist films on surfaces of the releasable supporting sheets.

22. The method according to claim 19, wherein the conductive wiring patterns are formed by printing a conductive paste on the surfaces of the releasable supporting sheets.

23. The method according to claim 19, wherein the step of

forming conductive wiring patterns includes forming multilayer wiring patterns separated by insulator layers and connected electrically by via holes.

24. The method according to claim 19, wherein a semi-hardened insulator is used as the adhesive insulator sheet.

25. The method according to claim 19, wherein a porous and compressible semi-hardened insulator is used as the adhesive insulator sheet.

26. The method according to claim 19, wherein an aramid-epoxy prepreg that is a non-woven aramid sheet impregnated with an epoxy resin is used as the adhesive insulator sheet.

27. The method according to claim 19, wherein the transferring step includes hardening the adhesive insulator sheet completely with heat and pressure that are applied for the transferring.

28. The method according to claim 19, wherein the transferring step includes embedding the conductive wiring pattern in the adhesive insulator sheet so as to form a flat surface and hardening the adhesive insulator sheet completely with heat and pressure.

29. A printed wiring board comprising:
an adhesive insulator sheet having through holes filled with
a conductive material;

a conductive wiring pattern on the surface of the adhesive insulator sheet that has been transferred from a surface of a releasable supporting sheet and is connected with the conductive material in the through holes, wherein the conductive wiring pattern is embedded in the adhesive insulator sheet so as to form a flat surface.

30. The printed wiring board according to claim 28, wherein a width of the conductive wiring pattern transferred onto the surface of the adhesive insulator sheet is smaller than a diameter of a via hole at least where the conductive wiring pattern is overlaid on the via hole.